

ABSTRACT OF SANITARY REPORTS.

VOL. V.

WASHINGTON, D. C., JULY 4, 1890.

No. 27.

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UNITED STATES.

SPECIAL REPORTS.

Yellow fever—South Atlantic Quarantine Station.

The Danish bark *Papa*, which arrived June 3, from Santos, via St. Thomas, for Brunswick, Ga., with one fatal case of yellow fever en route, was unballasted, washed, thoroughly fumigated for forty hours, and sprayed with bichloride solution. Departed from quarantine June 12.

Unfounded report of yellow fever at Philadelphia, Pa.

Newspaper reports having been published of a case of yellow fever at Philadelphia, taken from a vessel coming from Savannah, Ga., Surgeon George Purviance, in command of this service at Philadelphia, temporarily absent on service duty in New York, was ordered to return to station and investigate. The case proved to be one of malarial fever. Doctor Brunner, health officer at Savannah, Ga., reports that no case of yellow fever or infected vessel has arrived at that port.

Reports of States, and yearly and monthly reports of cities.

MICHIGAN.—Week ended June 21, 1890. Reports to the State board of health, Lansing, from 67 observers, indicate that puerperal fever, cholera infantum, cholera morbus, scarlet fever, inflammation of the bowels, membranous croup, bronchitis, and typhoid fever increased, and that cerebro-spinal meningitis, remittent fever, and erysipelas decreased in area of prevalence.

Diphtheria was reported at 22 places, scarlet fever at 27 places, enteric fever at 14 places, and measles at 33 places.

NEW JERSEY—*Hudson County*.—Month of May, 1890. Population, 292,734. Total deaths, 513, including phthisis pulmonalis, 60; measles, 2; scarlet fever, 4; diphtheria, 33; whooping-cough, 1; and enteric fever, 7.

NEW YORK.—Month of May, 1890. Reports from 135 cities and towns, including New York and Brooklyn, show a total of 8,659 deaths, including phthisis pulmonalis, 1,048; enteric fever, 66; scarlet fever, 58; measles, 200; whooping-cough, 67; and croup and diphtheria, 416.

Publications received.

Advance sheets from Charles N. Hewitt, M. D., secretary Minnesota State board of health, of *Public Health in Minnesota, Vol. VI, No. 4.*

Annual reports of the department of health, Minneapolis, Minn., 1889.

L'Epidemie de Grippe-Influenza a Constantinople, 1889-'90, par le Dr. L. G. Limarakis, Directeur du Dispensaire des Dames Grecques de Péra.

MORTALITY TABLE, CITIES OF THE UNITED STATES.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.....	June 28.....	1,617,997	875							1	6	27	27	11
Chicago, Ill.....	June 28.....	1,100,000								30	2	8	1	3
Philadelphia, Pa.....	June 21.....	1,064,277	480							11	3	7	3	2
Brooklyn, N. Y.....	June 28.....	859,612	473							3	1	19	4	6
Baltimore, Md.....	June 28.....	500,343	252							2	2	1	3	3
St. Louis, Mo.....	June 21.....	450,000	212							1	3	5		2
Boston, Mass.....	June 28.....	420,000	140							1	1	14	2	1
Cleveland, Ohio.....	June 14.....	240,310	82							7				
Cleveland, Ohio.....	June 21.....	240,310	74							4		1		
Minneapolis, Minn.....	June 21.....	200,000	35									1		1
Minneapolis, Minn.....	June 28.....	200,000	42							1		1		
Newark, N. J.....	June 21.....	197,360	88							3		3		
Newark, N. J.....	June 28.....	183,000	93							2	1	3		
Providence, R. I.....	June 28.....	130,000	35							1		1		1
Indianapolis, Ind.....	June 27.....	129,360	60											
Richmond, Va.....	June 21.....	100,000	58										3	
Toledo, Ohio.....	June 27.....	92,000	27									2		
Fall River, Mass.....	June 28.....	69,000	28											
Nashville, Tenn.....	June 28.....	68,531	41										1	
Manchester, N. H.....	June 28.....	43,000												
Portland, Me.....	June 28.....	42,000	8											
Council Bluffs, Iowa.....	June 21.....	40,000	2											
Galveston, Tex.....	June 13.....	40,000	15							1				
Binghamton, N. Y.....	June 28.....	35,000	16											
Altoona, Pa.....	May 31.....	34,397	11											1
Altoona, Pa.....	June 7.....	34,397	3											
Rock Island, Ill.....	June 22.....	16,000	6											
Pensacola, Fla.....	June 21.....	15,000	8										1	

Temperature and precipitation, week ending June 28, 1890.

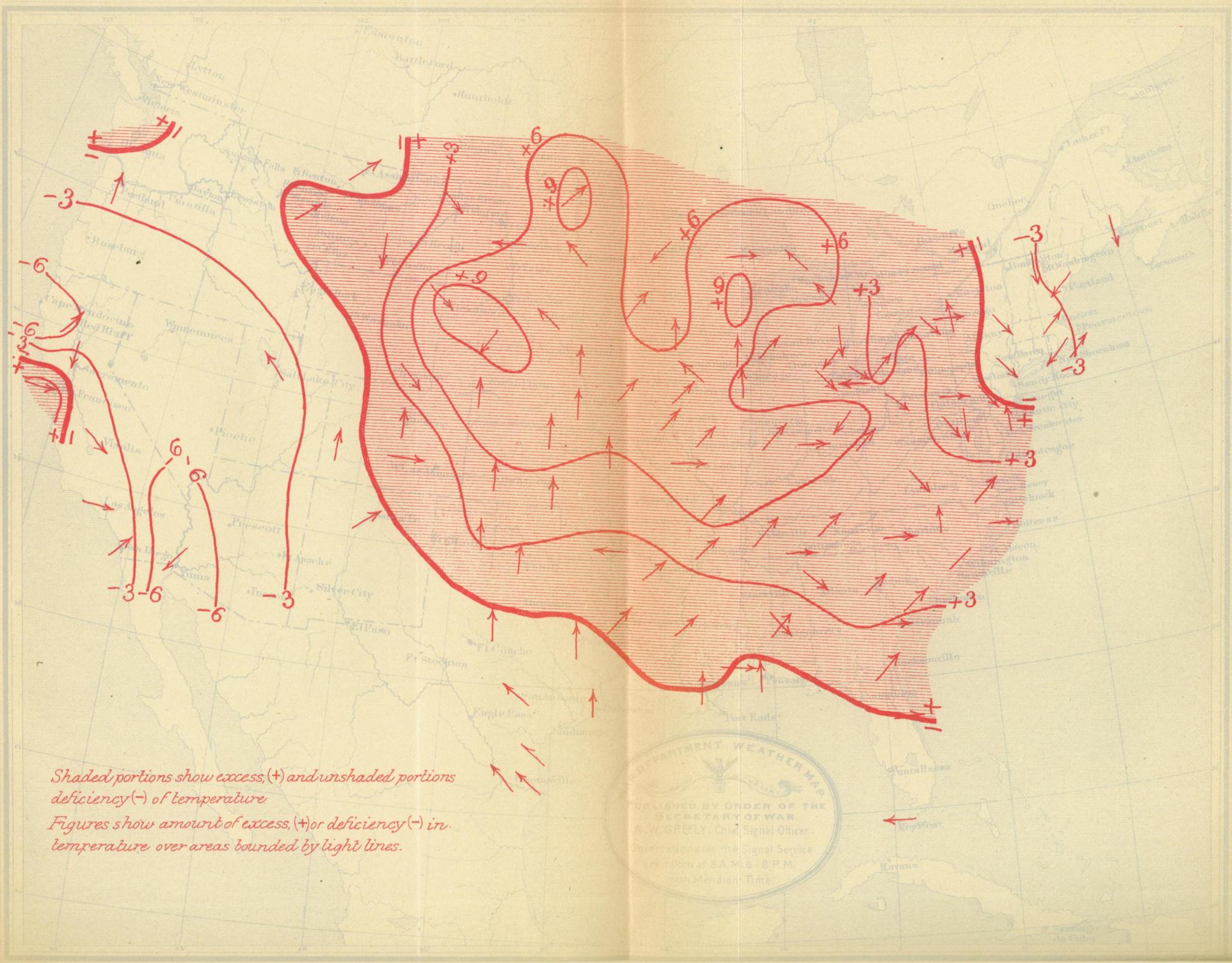
[Received from the Signal Office, War Department.]

TEMPERATURE.

The week ending June 28 has been unusually warm throughout the central valleys, the Northwest, and the upper lake region, the daily excess in temperature over this region ranging from 6° to 10°. The

*Temperature and Prevailing Direction of Wind, week ending
June 27, 1890.*

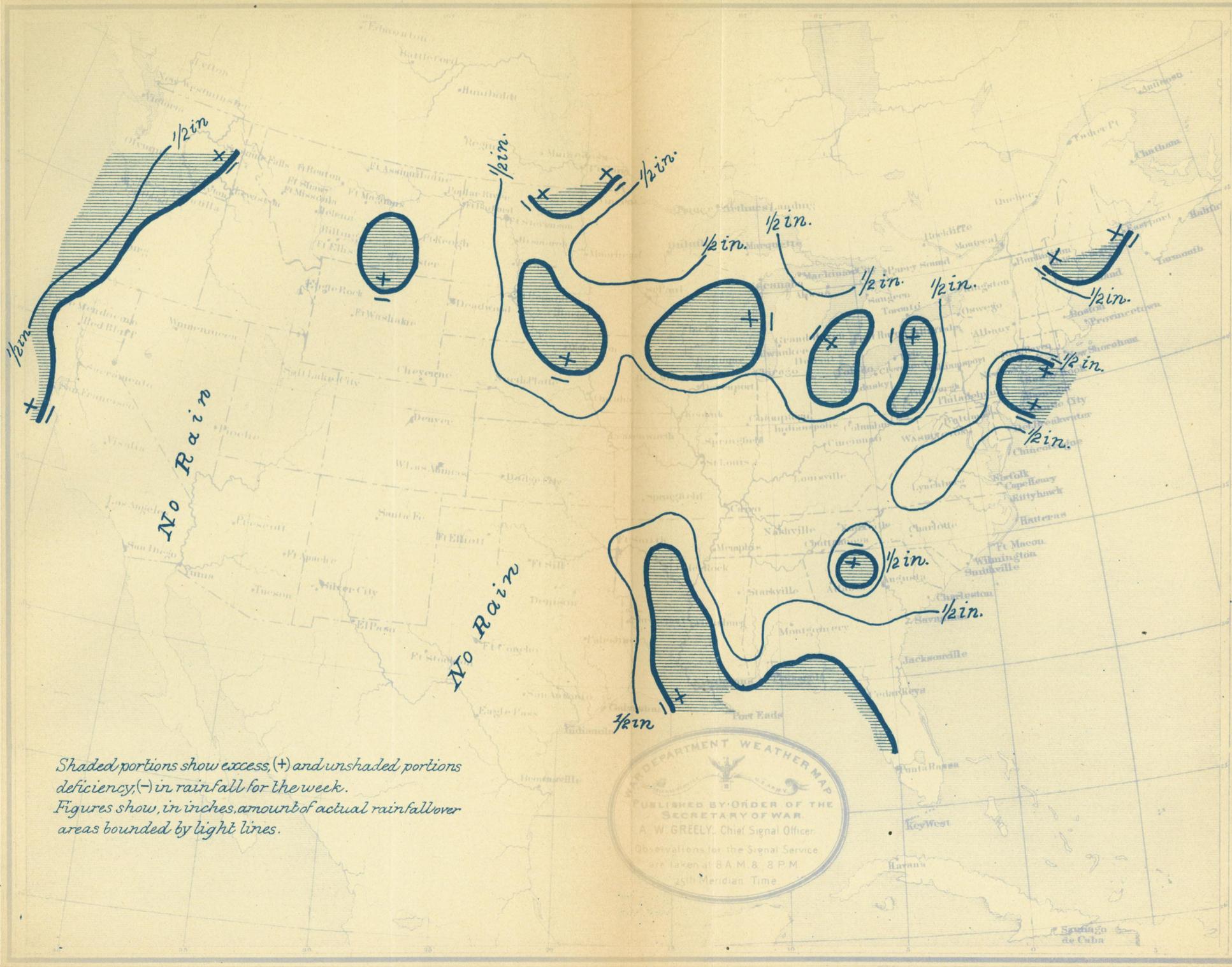
Form 106 F



*Shaded portions show excess (+) and unshaded portions
deficiency (-) of temperature.
Figures show amount of excess (+) or deficiency (-) in
temperature over areas bounded by light lines.*

DEPARTMENT WEATHER MAP
PUBLISHED BY ORDER OF THE
SECRETARY OF WAR
A. W. GREELY, Chief Signal Officer.
Observations for the Signal Service
taken at 8 A.M. & 8 P.M.
on each Meridian Time

Rainfall, week ending June 27th. 1890.



Shaded portions show excess, (+) and unshaded portions deficiency, (-) in rainfall for the week. Figures show, in inches, amount of actual rainfall over areas bounded by light lines.

heated term continued during the entire week over the principal wheat and corn producing States, and was especially favorable for the corn crop and harvest work. The week was slightly warmer than usual on the Atlantic coast south of New York, but it was relatively cool in New England, Texas, and to the west of the Rocky Mountains.

The temperature for the season, from January 1 to June 28, has been above the average throughout the country east of the Mississippi and south of the Missouri Valley, but the seasonal excess is less marked than it was at the opening of the month. From Dakota westward to the Pacific coast, and over the plateau regions and California, the seasonal temperature has been slightly below the normal, but the deficiency amounts to less than 2° per day, except in northern Montana, where the deficiency amounts to more than 4° per day.

PRECIPITATION.

The rain-fall for the week was in excess in the lower Mississippi valley, on the east Gulf coast, and over limited areas in the Northern States, extending from northern New England westward over the Lake region to the upper Missouri valley. Local excesses occurred in western New York and western Pennsylvania, eastern Michigan and northern Ohio, southern Wisconsin, and portions of Illinois, Iowa, Dakota, and Minnesota. Only light showers were reported from the central Mississippi, lower Missouri, and the Ohio valleys, while little or no rain occurred in Texas. Generous showers occurred on the north Pacific coast and over the middle and south Atlantic States.

The rain-fall for the season continues largely in excess in the west portion of the cotton-region, and generally over the northern States east of the Mississippi. In the east portion of the cotton-region, including Georgia, North and South Carolina, the seasonal rain-fall ranges from 50 to 75 per cent. of the normal. In Kansas, western Iowa, and north-western Missouri, the seasonal rain-fall amounts to less than three-fourths of the normal, while over the remaining portion of the Northwest it generally exceeds 90 per cent. of the normal.

FOREIGN.

(Reports received through the Department of State and other channels.)

GREAT BRITAIN—*England and Wales.*—The deaths registered in 28 great towns of England and Wales during the week ended June 14 corresponded to an annual rate of 17.2 a thousand of the aggregate population, which is estimated at 9,715,559. The lowest rate was recorded in Nottingham, viz, 9.6, and the highest in Manchester, viz, 26.2 a thousand. Diphtheria caused 2 deaths in Salford, 3 in Manchester, and 2 in Liverpool.

London.—One thousand three hundred and seventy-five deaths were registered during the week, including measles, 100; scarlet fever, 11; diphtheria, 24; whooping-cough, 59; enteric fever, 11; and diarrhœa and dysentery, 15. The deaths from all causes corresponded to an annual rate of 16.2 a thousand. Diseases of the respiratory organs caused 240 deaths. In greater London 1,742 deaths were registered, corresponding to an annual rate of 15.8 a thousand of the population. In the "outer ring" the deaths included measles 20 and whooping-cough 15.

Ireland.—The average annual death rate, represented by the deaths registered during the week ended June 14, in the 16 principal town districts of Ireland, was 21.5 a thousand of the population. The lowest rate was recorded in Wexford, viz, 8.6, and the highest in Lurgan, viz, 41.0 a thousand. In Dublin and suburbs 171 deaths were registered, including typhus, 1; enteric fever, 3; and diarrhœa, 2.

Scotland.—The deaths registered in eight principal towns during the week ended June 14 corresponded to an annual rate of 19.9 a thousand of the population, which is estimated at 1,345,563. The lowest mortality was recorded in Perth, viz, 10.9, and the highest in Glasgow, viz, 25.4 a thousand. The aggregate number of deaths registered from all causes was 516, including measles, 39; scarlet fever, 2; diphtheria, 6; whooping-cough, 22; fever, 4; diarrhœa, 20; and croup and laryngitis, 5.

Malta and Gozo.—One hundred and fifty-seven deaths were registered during the period from the 16th to 31st May, 1890, including diphtheria, 1; continued fever, 2; enteric fever, 2; and dysentery, 2.

Canada.—Month of April, 1890. Reports from 29 cities and towns, having an aggregate population of 893,199, show a total of 1,508 deaths. In Montreal, population 210,000, there were 491 deaths, including scarlet fever, 3; diphtheria, 12; typhus, enteric, and contagious fevers,

3; and whooping-cough, 3. In Toronto, population 178,000, there were 270 deaths, including measles, 1; diphtheria, 6; fevers, 1; and whooping-cough, 1. In Quebec, population 67,000, there were 130 deaths, including diphtheria 3 and whooping-cough 10.

BRITISH INDIA—*Straits Settlements*.—Year 1889. The deaths registered in the Straits Settlements, including Singapore, Dindings, Penang, Province Wellesley, and Malacca, included cholera, 209; small-pox, 73; beri-beri, 605; fevers, 6,659; and bowel complaints, 2,031. Total deaths from all causes, 18,806.

Singapore.—Month of April, 1890. Total deaths, 598, including fever, 185; bowel complaints, 50; small-pox, 3; and beri-beri, 42.

BRAZIL—*Rio de Janeiro*.—Week ended May 31, 1890. Population, 450,000. Total deaths, 279, including yellow fever, 19; enteric fever, 6; typhus fever, 4; pernicious fever, 5; and phthisis pulmonalis, 6. The United States consul says that “unless something unforeseen happens all danger of a yellow fever epidemic has now passed. Winter is upon us, and the weather has grown very much cooler.”

CUBA—*Havana*.—Week ended June 19, 1890. Population, 200,000. Total deaths, 191, including yellow fever, 16; enteric fever, 9; and diphtheria, 1.

Cardenas—Yellow fever.—The United States consul reports as follows, under date of June 16, 1890:

Yellow fever has begun. Small-pox is threatening here also. Vaccination begun. (See table.)

BAHAMAS—*Nassau, N. P.*—June 14, 1890. City healthy. Weather hot and dry.

MEXICO—*Merida—Yellow fever*.—Dr. Manuel R. Moreno, United States sanitary inspector,¹ who arrived at Key West, Fla., after a tour of inspection of Progreso and Merida, Mexico; Colon, United States of Colombia, and Puerto Limon, Costa Rica, reports as follows, under date of June 28, 1890:

SIR: I take pleasure to notify you of my arrival from Progreso and Merida after a careful inspection at Colon, Colombia, and Puerto Limon, Costa Rica.

I am preparing to remit you a full report of all the information obtained, which I will forward you next week.

I can assure you that with the exception of Merida (Mexico), where yellow fever is endemic, I have found all other places up to my sailing to be very healthy, and as to Port Limon and Colon, I must say that their sanitary condition is of the best.

The wife of the United States consular agent at Progreso was convalescent of yellow fever at my departure from Merida, and is doing well. She is a New Yorker by birth, and had only been in Merida for a short time.

SPAIN—*Valencia and Madrid—Cholera.*—The following dispatch has been received from the United States chargé d'affaires *ad interim* at Madrid, Spain, dated June 18, 1890, addressed to the Honorable the Secretary of State :

SIR: According to my judgment, I considered it of enough importance to cable you this morning as follows :

“Asiatic cholera, Valencia, spreading rapidly.”

El Imparcial, the liberal paper, sent a celebrated Spanish doctor to the province of Valencia. He reports by telegram this morning that he has found the true “bacillus virgulus” and fears the epidemic will become serious, as it is rapidly spreading throughout the neighboring country. The Government are taking precautions here and erecting hospitals outside of the city. I will add that the condition of the hospitals in Madrid is very bad, this opinion arising from a personal visit. In the old and poorer parts of the town the sanitary condition of the streets and sewers is deplorable; excrements, both human and animal, allowed to remain, and in the houses the exit pipes of the water-closets are too small to allow a sufficient quantity of water to go through them that they may be properly flushed, and as this same trouble is also found in modern-built houses, the death rate must be necessarily large if the epidemic reaches here.

The weather is very hot and sultry throughout Spain. The Government reports are most meager and the newspaper enterprise is slow, and one may readily estimate the condition of things really worse than it is.

From an apothecary, who is related to a clerk in this legation, I learn that he was called to attend a case of cholera last night. The patient was removed to the government hospital.

I have the honor, etc.

H. R. NEWBERY.

Gandia—Cholera.—A cable dispatch from the United States consul at Denia, Spain, under date of June 28, announces that cholera is officially declared in Gandia. Gandia is in the southeastern corner of the province of Valencia, on the eastern or Mediterranean coast of Spain.

Malaga—Yellow fever.—The following dispatch has been received from the United States chargé d'affaires *ad interim* at Madrid, Spain, dated June 18, 1890, addressed to the Honorable the Secretary of State :

SIR: Two cases of yellow fever exist at Malaga; one will prove fatal and the other is in doubt; both cases are rigidly quarantined; the disease is reported as having been brought to Malaga by the steamer *Herman Cortes* with cotton from New Orleans, via Havana.

I have the honor, etc.,

H. R. NEWBERY.

Cholera cases in France.

[Translated for this Bureau from *La Pratique Médicale*, Paris, June 5, 1890.]

At a meeting of the Société de Médecine Pratique de Paris, June 5, 1890, Doctor Guelpa stated that on Wednesday, June 4, he had been called

to attend a case which he identified with cholera. The patient, a cooper by trade, was in good health up to the time of his seizure with strongly marked choleraic symptoms. Though improving, the patient was not out of danger.

Doctor Dubousquet Laborderie reported an analogous case in his practice. The patient was attacked after unloading a wagon of onions imported from Egypt.

Doctor Roussel reported three cases of cholera at Toulon among soldiers lately returned from Tonquin. Two of the cases were fatal.

C. Paul upon the antiseptic agents proper to each pathogenic microbe.

[Continued from page 167, *Abstract of Sanitary Reports* for April 11, 1890. Translated for this Bureau from *La Pratique Médicale*, Paris, May 27, 1890.]

The number of microbicides that have been tried against the bacillus of tuberculosis is considerable. They are as follows :

1. Chemical agents that offer no obstacle to the culture of the bacillus of tuberculosis, and in which the colonies attain a remarkable development: Benzoic acid, salicylic acid, uric acid, salicylic aldehyde, benzoate of soda, bromide of camphor, biborate of soda, ferrocyanide of potassium, leucin, phosphomolybdate of soda, white phosphorus, chloral, coniferin, sulphocyanide of potassium, urea, urethane.

2. Substances in which the cultures are perceptible, but in which they develop with difficulty: Antifebrin, acetone, aldehyde, ammoniacal alum, chrome alum, arseniate of soda, nitrate of cobalt, nitrate of potash, benzophenone, bichromate of ammonia, biniodide of mercury, caffeine, chlorate of potash, chloride of aluminum, essence of turpentine, essence of eucalyptus, eucalyptol, ferrocyanide of potassium, iodide of potassium, lactate of zinc, naphthylsulphate of soda, sulphate of soda, sulphate of zinc, sulphite of soda, resorcin, terpin, terpinol.

3. Substances which, in small dosage, render the cultures scarcely appreciable: Acetate of soda, acetophenone, arsenious acid, boric acid, methylic alcohol, nitrate of potash, benzine, creosote, chloroform, ether, fluoride of sodium, oil of naphtha, hyposulphate of soda, picric acid, pyrogallic acid, sulphurous acid, ethylic alcohol, iodoform, menthol, nitrobenzine, neutral oxalate of potash, salol, sulphate of aluminum, sulphite salicylodium, sulphocinate of soda, toluene.

3. Substances which completely sterilize the cultures: Hydrofluor-silicic acid, fluorsilicate of potash, ammonia, fluorsilicate of iron, polysulphate of potassium, silicate of soda.

The phagocyte theory of Metchnikoff.

[Translated for this Bureau from *La Rivista Internazionale d'Igiene*, May, 1890. (See also *Abstract*, April 25, 1890.)]

The results of Metchnikoff's latest experiments constitute a valuable contribution to the interesting subject of immunity. To form a clear conception of the attitude of scientific opinion toward this theory it must be borne in mind that the resistance of the invaded organism to the invading micro-organisms is variously explained, now from the

physico-chemical point of view, now from that of cellular biology. According to Baumgarten, a low temperature renders cold-blooded animals immune against tuberculosis. Behring attributes the immunity of frogs against the bacillus anthracis to the degree of alkalinity of the blood. Buchner has put himself at the head of a school of investigators who claim chemical microbicide properties for the blood serum. In opposition to these theories of the neutralization of morbid activities stands the theory of phagocytosis.

Recent experiments with the virus of the anthrax in pigeons mark a new phase of this theory. That pigeons are refractory to the bacillus anthracis has been proved by numerous observations, and explained according to the several modes of accounting for immunity in general. For example, Hess invariably verified phagocytosis, while the Baumgarten school absolutely denied the intervention of the destructive white globules. Another interesting side of the controversy was the determination whether in the passage through the organism of the pigeon, the anthrax virus undergoes an attenuation, as affirmed by Omler and Kitt, or a reinforcement of virulence, as asserted by Roux.

Metchnikoff's experiments show in the clearest manner that repeated inoculation imparts a progressive potency to the bacteridium which traverses the pigeon's organism. But the demonstration of particular importance to phagocytosis was the constant infiltration of leucocytes at the point of inoculation, proving that the micro-organisms were taken up by the microphagi or polynucleate leucocytes, the protoplasm of which is not adapted to common aniline coloration, and by macrophagi, or white cells of one nucleus, the protoplasm of which reacts with methyl blue. The strife between the micro-organisms and the cells was manifested with the most complete accentuation. The micro-organisms frequently showed signs of incipient degeneration, while phagocytes were as frequently observed which had lost their power of vital resistance. That the bacilli were generally living when absorbed Metchnikoff proved by their mobility, by their reaction with an old solution of vesuvian, and by the following experiment: He put a drop of exudation taken from a pigeon into broth heated to a point which annihilated the life of the phagocytes while permitting a luxuriant development of germs, which he followed through the various successions of bacillary development. To demonstrate the virulence of the germs he obtained cultures of bacilli contained within the leucocytes.

In conclusion, Metchnikoff does not claim exclusiveness for his theory. He does not consider one isolated fact sufficient to explain the complex vital phenomena of immunity, and he has always conceded that the progress of investigation may lead to the determination of other interesting factors of immunity, phagocytosis remaining the principal phenomenon of the process.

MORTALITY TABLE—FOREIGN CITIES.

Cities.	Week ended.	Estimated popula- tion.	Total deaths from all causes.	Deaths from—								
				Cholera.	Yellow fever.	Small-pox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
London.....	June 7.....	5,758,500	1,742	.....	.....	.....	1	7	15	22	117	.....
Paris.....	June 7.....	2,260,945	936	.....	.....	1	.....	12	9	22	69	14
Glasgow.....	June 7.....	545,678	278	.....	.....	.....	.....	.....	4	.....	26	16
Glasgow.....	June 14.....	545,678	259	.....	.....	.....	.....	3	1	2	24	14
Warsaw.....	May 31.....	455,852	195	.....	.....	11	.....	.....	5	3	.....	.....
Warsaw.....	June 7.....	455,852	232	.....	.....	13	.....	.....	2	15	.....	.....
Calcutta.....	May 17.....	433,219	183	5	15	.....	.....	.....	.....	.....	2	.....
Rome.....	May 17.....	418,217	148	.....	.....	.....	.....	2	1	6	.....	.....
Rome.....	May 24.....	418,217	155	.....	.....	.....	.....	1	.....	3	.....	.....
Amsterdam.....	June 7.....	406,402	180	.....	.....	.....	.....	2	1	6	.....	.....
Amsterdam.....	June 14.....	406,402	134	.....	.....	.....	.....	1	1	1	.....	.....
Copenhagen.....	May 31.....	312,387	135	.....	.....	.....	.....	.....	1	1	7	.....
Munich.....	May 31.....	298,000	152	.....	.....	.....	.....	.....	.....	7	3	.....
Munich.....	May 24.....	298,000	144	.....	.....	.....	.....	.....	2	3	.....	.....
Palermo.....	June 7.....	250,000	78	.....	.....	.....	.....	.....	6	.....	.....	.....
Palermo.....	June 14.....	250,000	100	.....	.....	.....	.....	.....	7	1	.....	.....
Bristol.....	June 14.....	232,248	51	.....	.....	.....	.....	.....	.....	1	.....	.....
Rotterdam.....	June 14.....	203,472	76	.....	.....	.....	.....	.....	.....	.....	.....	.....
Genoa.....	June 14.....	180,307	76	.....	.....	2	.....	.....	1	1	.....	.....
Trieste.....	May 21.....	158,054	67	.....	.....	1	.....	1	1	1	.....	.....
Trieste.....	June 7.....	158,054	76	.....	.....	.....	.....	.....	.....	2	.....	.....
Stuttgart.....	June 7.....	125,510	48	.....	.....	.....	.....	.....	.....	3	.....	.....
Stuttgart.....	June 14.....	125,510	53	.....	.....	.....	.....	.....	.....	3	.....	.....
Pernambuco.....	May 21.....	120,000	221	.....	3	54	.....	.....	.....	.....	.....	.....
Havre.....	June 7.....	112,074	63	.....	.....	.....	.....	3	.....	.....	8	.....
Catania.....	June 9.....	109,000	62	.....	.....	.....	.....	.....	5	.....	1	.....
Catania.....	June 16.....	109,000	64	.....	.....	.....	.....	.....	7	.....	.....	1
Leghorn.....	June 15.....	103,659	56	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mayence.....	June 7.....	65,802	35	.....	.....	.....	.....	.....	.....	1	.....	.....
Cadiz.....	June 7.....	57,157	44	.....	.....	.....	.....	2	.....	1	.....	.....
Merida.....	June 7.....	45,000	30	.....	1	.....	.....	.....	.....	.....	.....	.....
Merida.....	June 15.....	45,000	35	.....	1	.....	.....	.....	.....	.....	.....	.....
Cienfuegos.....	June 16.....	40,655	17	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cardenas.....	June 15.....	25,000	21	.....	2	.....	.....	.....	.....	.....	.....	.....
Vera Cruz.....	June 19.....	23,800	28	.....	*1	.....	.....	.....	.....	.....	.....	.....
Gibraltar.....	June 8.....	23,681	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston, Can.....	June 20.....	18,284	10	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sagua.....	June 14.....	15,605	6	.....	.....	.....	.....	.....	.....	1	.....	.....
Hamilton, Bermuda.....	June 24.....	14,314	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas.....	May 30.....	13,500	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas.....	June 6.....	13,500	14	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas.....	June 13.....	13,500	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Flushing, Neth.....	June 16.....	12,793	3	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guelph, Ont.....	June 21.....	10,173	4	.....	.....	.....	.....	.....	2	1	.....	.....
La Guayra.....	June 14.....	7,428	6	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Sania.....	June 21.....	6,200	3
Clifton, Ont.....	June 21.....	3,500	1

* This case came from Havana. No other case.

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